

# ENGINEERING MANAGEMENT (EM)

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**EM 404 (s) Special Topics**  
Credit arranged

**EM 502 (s) Directed Study**  
Credit arranged

**EM 504 (s) Special Topics**  
Credit arranged)

**EM 510 Engineering Management Fundamentals**  
3 credits

Fundamental principles of engineering management addressing management theory applied to the engineering environment; management processes and techniques; attitudes that facilitate the leadership role of the engineering manager in an engineering organization.

**Prereq:** Instructor permission.

**EM 550 Process Improvement Methods**  
3 credits

This course will examine a framework for delivering dramatic and sustained continuous improvement results through the integration of improvement methodologies such as Lean Six Sigma and Design for Lean Six Sigma (DFLSS).

**EM 560 Project Risk Management**  
3 credits

Application of project risk assessment tools and techniques that help increase the probability of project success. Discover different approaches used by commercial and federal agencies to identify, assess, and quantify risks and their impacts on projects.

**Prereq:** Instructor Permission

**EM 570 Global Product Development**  
3 credits

Discussion of topics related to enabling effective global product development spanning the entire product development cycle from strategy development, through project execution, and ultimately post release product support. Rather than presenting a fixed methodology, this course will provide a framework for global development that can be adapted to specific environments.

**EM 580 Technical Project Management**  
3 credits

Traditional project management approaches are typically structured around the five PMBOK (Project Management Book of Knowledge) process groups. This course will introduce the PMBOK process groups but then discuss five different project management life cycle (PMLC) models to manage a project. The topics discussed are appropriate for new project managers but also for experienced project managers who are looking to increase their awareness and improve their skills in differing PMLC models.

**EM 582 Advanced Topics in Project Management**  
3 credits

Discussion and application of advanced project management topics beyond those prescribed by traditional project management approaches. Example topics include project portfolio management, multi-project management, use of Theory of Constraints (TOC) and Critical Chain approaches to drive improved results, and application of Agile practices. These approaches should be applicable to a wide variety of industries and functions.

**Prereq:** EM 580 or Instructor Permission

**EM 596 Capstone Integration**  
1 credit

Capstone integration of degree material in Engineering Management and comprehensive final exam.

**Prereq:** Permission

**EM 599 (s) Non-thesis Master's Research**  
Credit arranged

Research not directly related to a thesis or dissertation.

**Prereq:** Permission